



Branton Community Primary School

Mathematics Policy

March 2022

Mathematics Policy

At Branton Community Primary School, our intention is to provide a mathematics curriculum that maximises the development of every child's ability and academic achievement. To achieve this, all children have equal access to a curriculum that is coherently planned and sequenced through a series of small, sequential steps and it offers both breadth and depth to all learners.

Through our mathematics curriculum, we want children to make rich connections between mathematical ideas, developing fluency, mathematical reasoning and competence in solving increasingly sophisticated problems. We also strive for all of our children to be able to confidently apply their mathematical knowledge and understanding to other subject areas.

We want the children of Branton Community Primary School to be aware that mathematics has been developed over centuries, providing the solution to some of history's most intriguing problems. We want them to know that it is essential to everyday life, critical to science, technology and engineering, and necessary for financial literacy as well as many forms of employment. Most importantly however, we want the children of Branton Community Primary School to have a sense of enjoyment and curiosity about mathematics as we believe this will enable them to know and remember more.

Aims

In line with the aims of the National Curriculum for mathematics, at Branton Community Primary School, we aim to ensure that we:

- Support our children to become **fluent** in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time.
- Promote children's ability to **reason mathematically** and make connections by following a line of enquiry and having routine opportunities to discuss their thinking and understanding.
- Provide our children with routine opportunities to **solve problems** by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication.
- Support the development of our children's mathematical knowledge and understanding through the use of a CPA approach (concrete, pictorial, abstract).
- Enable our children to develop conceptual understanding, recall of number facts and patterns, applying them both rapidly and accurately.
- Enable our children to gain deep and sustainable learning in mathematics which they are then able to confidently apply to a range of real life contexts.
- Provide our children with opportunities to demonstrate their knowledge through cross-curricular links.

Planning

Long term planning is taken from the White Rose maths hub overviews and used to inform medium term planning from Reception to Year 6. The White Rose material is used as a guidance tool in order to pace out coverage of the curriculum throughout the year.

Teachers are encouraged to use professional discretion when deciding how long is needed on particular curriculum areas as well as when deciding at what point within the academic year objectives should be taught. Work undertaken within the Foundation Stage is led by the requirements of the Early Years Foundation Stage statutory framework and guided by the Development Matters and Birth to Five documents.

Half termly, teachers work to identify and select objectives from either the White Rose Maths Hub overviews or the Early Years Development Matters document as guidance. Stand alone maths lessons as well as cross-curricular opportunities to both reinforce and embed children's mathematical learning are considered.

Individual teachers are responsible for the planning of thoughtful, stimulating individual lessons for their class. Through these lessons, it is expected that children will be introduced to objectives from the appropriate programme of study as well as have the opportunity to secure their mathematical understanding of them through routine problem solving and reasoning challenges. Teachers use suitable resources which are either teacher designed or obtained from a range of reputable providers such as White Rose Maths Hub, Twinkl, NCETM, Assertive Mentoring etc.

Teaching and Learning Strategies

At Branton Community Primary School, we use a variety of age appropriate teaching strategies to cater for the varied learning styles of our children.

In the Early Years, we recognise that creativity within the indoor and outdoor environment plays a significant role in mathematical thinking and understanding. In addition to daily, adult-led activities, a selection of games, songs, story-telling materials and resources are also carefully identified for children to access independently. Our Early Years provision enables children to be introduced to mathematical skills and concepts in small groups as well as then have the time and freedom to further explore, practise and develop these skills 'In the Moment'. Through focused and routine observations, all staff within the Early Years then extend, challenge and strengthen each child's mathematical understanding.

Learning in the Early Years is often based upon pupils' interests and current themes. As children progress, greater emphasis is then placed on representing their mathematical knowledge through more formal experiences and they are encouraged to start recording their mathematical thinking. A range of mark making materials are on hand for children to use independently.

In Key Stage 1 and 2, our principal aim is to develop children's knowledge, skills and understanding in mathematics through a daily lesson that has a high proportion of group-direct and individual teaching.

Problem solving opportunities are both built into each learning objective and

taught discretely with the aim of supporting children to make mathematical connections as well as become more fluent in the fundamentals of mathematics.

Teachers use the CPA approach (concrete, pictorial, abstract) approach to ensure that concepts are modelled to pupils using multiple representations. This ensures that procedural and conceptual understanding are developed simultaneously.

At Branton Community Primary School, we also believe that the use of the outdoor environment is important in supporting the teaching and learning of maths. The world beyond the classroom is not only an essential part of our children's personal development, but it facilitates authentic, experiential learning experiences where opportunities for deep, sustained learning can again be facilitated.

ICT is used in various ways to support the teaching and learning of maths as well as to motivate children's learning. Each classroom has a PC connected to an interactive whiteboard to facilitate hands-on, experiential learning. Children each have access to their own Chromebook, on which they are able to access content on EducationCity to support and consolidate their learning which can be accessed both with the classroom and at home.

Assessment

Assessment is regarded as an integral part of the teaching and learning process at Branton Community Primary School. It is believed that formative and summative assessments are both important in fully understanding the depth of a child's mathematical knowledge and understanding, and that a balance of both quantitative and qualitative sources should be used when making such judgements.

At Branton Community Primary School, the key sources of assessment in maths are:

- Observations
- Discussions with individual / groups of children
- Assessment for learning strategies: peer assessment (e.g. 2 stars and a wish) and self assessments (e.g. 'traffic light' colours)
- Marking and feedback in children's books only when a verbal conversation has not occurred.
- Frequent maths skills tests.
- End of unit assessments
- Termly progress checks
- Reception baseline and end of Foundation Stage Profile
- End of Year 2 and Year 6 SATs tests

Throughout the year, there are two Parents Consultations where parents are able to view their child's work and discuss their progress. At the end of each academic year, parents receive a written report on which there is a summary of their child's effort and progress in maths. As a statutory requirement, the report also states whether a child has reached end of year age related expectations in maths as in the other core subjects.

Marking

At Branton Community Primary School, we believe that children should be actively encouraged to participate in the marking process, either through self and peer assessment opportunities, or through responding to teacher's feedback.

Due to our small numbers, teachers are able to ensure that children are given prompt verbal feedback to address any misconceptions and praise hard work. We believe that instant verbal communication is the best way to progress learning, and therefore is our main form of communication with the children regarding their work. Where written marking has been completed, school staff use blue ink for 'Brilliant'- 'Brilliant Blue' and pink ink where children need to 'Think' either to correct work or complete a set challenge - 'Think Pink'.

Resources

At Branton Community Primary School, teachers are expected to support the teaching and learning process by carefully selecting high quality, concrete and pictorial representation of mathematics, this not only supporting the schools CPA approach, but also helping to bring procedural and conceptual knowledge together. There is also the expectation that these resources and representations are progressive. Having had resources modelled by their class teachers, children should be encouraged to select and use the resources which they feel would be beneficial in supporting their learning. Each classroom is equipped with a range of age appropriate resources. These are stored in accessible and clearly labelled drawers / containers. Larger equipment is stored centrally in the maths cupboard.

Continuing Professional Development

All staff are encouraged to develop, assess and improve their teaching of maths. Where a member of staff feels a need for a particular INSET, discussions should take place with the head teacher as part of their Performance Management.

At Branton Community Primary School, we encourage staff to attend school based INSET as well as external training courses. We also involve staff with policy and decision making as well as provide opportunities for in-school coaching where staff can both work with, and observe other colleagues.

All staff members have full access to The National College training materials.

Monitoring and Evaluation

It is the responsibility of the head teacher to produce an annual action plan in order to effectively plan, monitor and evaluate the development of the curriculum and identify key action areas across the school. These development areas are monitored by the Governing Body as part of the Curriculum and Standards Committee and by the school team throughout the year.

Within the classroom, monitoring of the standards of children's work and the quality of teaching in maths is completed via lesson observations, work scrutiny, learning walks, pupil interviews, data analysis and planning reviews. Any pertinent findings are discussed at the Curriculum and Standards Committee Meetings which the HT and Senior Teacher attend.

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March 2022

Review date July 2023